

**USGS-NPS Vegetation Mapping Program**  
**Sunset Crater Volcano National Monument**

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*Pinus ponderosa* / Cinder Woodland

COMMON NAME	Ponderosa Pine / Cinder Woodland
PHYSIOGNOMIC CLASS	Woodland (II.)
PHYSIOGNOMIC SUBCLASS	Evergreen woodland (II.A.)
PHYSIOGNOMIC GROUP	Temperate or subpolar needle-leaved evergreen woodland (II.A.4.)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (II.A.4.N.)
FORMATION	Rounded-crowned temperate or subpolar needle-leaved evergreen woodland (II.A.4.N.a.)
ALLIANCE	<i>Pinus ponderosa</i> Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL Low Confidence, Newly described at Sunset Crater Volcano NM. No additional global description data available.

USFS WETLAND SYSTEM Upland

RANGE

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Ponderosa Pine / Cinder Woodland is one of the most common associations in the mapping project and is found on level and on steep slopped cinder. Within Sunset Crater Volcano NM it occurs in lower elevations on the north side of Sunset Crater. It predominates the central area of the park environs and occurs on O'Leary peak and in the surrounding lower elevation areas.

ENVIRONMENTAL DESCRIPTION

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Ponderosa Pine / Cinder Woodlands elevation ranges from 2,020-2,300m (average 2,060m). The association occurs on steep slopes on cinder cones and flatter areas (0-45% slope, average 14%).

MOST ABUNDANT SPECIES

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<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i>

ASSOCIATED SPECIES

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*Andropogon hallii*, *Bouteloua gracilis*, *Brickellia californica*, *Elymus elymoides*, *Ericameria nauseosa*, *Fallugia paradoxa*, *Festuca arizonica*, *Monardella odoratissima*, *Muhlenbergia montana*, *Oxytropis lambertii*, *Pinus edulis*, *Rhus trilobata*, *Ribes cereum*

VEGETATION DESCRIPTION

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The total vegetation cover ranged from 21-70% (average 36%). The tree layer absolute cover ranged from 19-55% (average 32%), the shrub layer 0.5-10% (average 3%), and the herbaceous strata 0.5-20% (average 3%). The total species richness ranged from 5-20 species (average 11) as measured on 22 relevés.

The tree layer was dominated by *Pinus ponderosa* (15-56% absolute cover, average 33%). DBH ranged from 11-99cm (average 31cm) with heights ranging 5-30m. The shrub layer was sparse and the herbaceous cover was low to sparse.

CONSERVATION RANK G?

DATABASE CODE CEGL002998

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**MAP CLASSES**

The map class Ponderosa Pine / Cinder Woodland is mapped as Ponderosa Pine / Cinder Woodland and occurs as map code 14.

Ponderosa Pine / Cinder Woodland is mapped as a predominant map class in the central part of the project boundary. In Sunset Crater Volcano NM 93 hectares were mapped within 26 polygons; in the park environs 1038 hectares within 61 polygons.

**COMMENTS**

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Ponderosa Pine / Cinder Woodland can be distinguished from Ponderosa Pine / Apache Plume Woodland by the understory shrub cover. Ponderosa Pine / Cinder Woodlands shrub layer absolute cover is <5% and Ponderosa Pine / Apache Plume Woodland shrub layer average absolute cover is >5%. This type is similar to *Pinus ponderosa* / *Bouteloua gracilis* Habitat Type, *Andropogon hallii* phase, previously described in Hanks et al. 1983.

**REFERENCES**

Hanks et al. 1983